

PATENT *AF*

Case Docket No. AMAZON.060A

Date: October 13, 2004

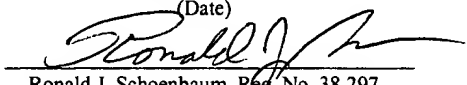
Page 1

cIn re application of : Kenneth Smith  
Appl. No. : 09/729,646  
Filed : December 4, 2000  
For : GRAMMAR GENERATION  
FOR VOICE-BASED  
SEARCHES  
Examiner : Huyen X. Vo  
Art Unit : 2655

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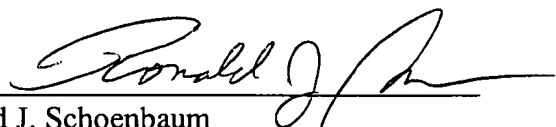
  
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AMAZON.060A

PATENT

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Appellant	:	Kenneth Smith
Appl. No.	:	09/729,646
Filed	:	December 4, 2000
For	:	GRAMMAR GENERATION FOR VOICE-BASED SEARCHES
Examiner	:	Huyen X. Vo
Group Art Unit	:	2655

**APPEAL BRIEF**

Board of Patent Appeals and Interferences  
United States Patent and Trademark Office  
P.O. Box 1450  
Alexandria, VA 22313-1450

Appellant, Applicant in the above-captioned patent application, appeals the final rejection of Claims 1-11 and 13-18 set forth in the Final Office Action mailed on June 1, 2004. A check for the filing fee is enclosed. Please charge any additional fees that may be required now or in the future to Deposit Account No. 11-1410.

**I. REAL PARTY IN INTEREST**

The real party in interest in the present application is A9.com, Inc., which is the assignee of record.

**II. RELATED APPEALS AND INTERFERENCES**

An appeal is currently pending in U.S. Appl. No. 09/650,173, filed August 29, 2000 ("the '173 application"), which is owned by the assignee of the present application. The '173 application discloses methods for improving speech recognition accuracy when a user conducts a database search by voice, including methods that involve the generation and selection of speech recognition grammars.

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### **III. STATUS OF CLAIMS**

Claims 1-18 are currently pending in the application, and are attached hereto as an appendix. All of the pending claims were finally rejected by the Examiner and are the subject of this appeal.

### **IV. STATUS OF AMENDMENTS**

An Amendment was filed on September 10, 2004 to correct a typographical error in Claim 4, and to correct an antecedent basis error in Claim 12.

### **V. SUMMARY OF CLAIMED SUBJECT MATTER**

The present application discloses computer-implemented methods for generating speech recognition grammars that specify valid utterances that may be used to search a domain of items by voice. The items may, for example, be book titles, movie titles, CD titles, songs, television shows, video games, toys, published articles, businesses, Web pages, users, and/or any other type of item for which searches may be conducted. The speech recognition grammars may, for example, be used by a voice recognition system to interpret queries that are spoken by a user into a telephone.

The present application includes three independent claims. Each independent claim is paraphrased below, with citations to correspond portions of the substitute specification<sup>1</sup> and drawings, as required by 37 C.F.R. § 41.37(c)(1)(v). These citations are provided in order to illustrate specific examples and embodiments of the recited claim language, and not to limit or interpret the claims.

Claim 1 is directed to a method of specifying, to a speech recognition system (element 302 in Figure 3), a set of valid utterances for interpreting voice-based queries for items within a domain of items (see database 307 in Figure 3, which illustrates one type of domain of items that

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<sup>1</sup> A substitute specification and two replacement drawings were submitted in response to the first Office Action to change "voice recognition" to "speech recognition" throughout the application, as requested by the Examiner.

may be searched using voice-based queries). The method comprises extracting phrases from at least some of the items within the domain (see paragraphs 0005 and 0017 of the substitute specification, and block 102 of Figure 1; note that the term “extract” encompasses copying, and thus does not require removal or deletion of the thing being extracted). The method also comprises expanding each phrase into a set consisting of individual terms of the phrase and forward combinations of terms within the phrase, to thereby generate a set of utterances which includes both single-term and multiple-term utterances (see block 108 of Figure 1, block 420 of Figure 4, and paragraphs 0006, 0007, 0019, 0020, and 0036). The method further includes incorporating at least some of the single-term and multiple-term utterances into the speech recognition grammar (see block 114 of Figure 1, and paragraphs 0007, 0020 and 0021); and providing the speech recognition grammar to the speech recognition system (see lines 9 and 10 of paragraph 0007, and paragraphs 0024 and 0045).

Independent Claim 9 is directed to a method of enabling an item to be located by a voice-based search query. The method comprises extracting a phrase from text of the item (see paragraphs 0005 and 0017, and block 102 of Figure 1); and translating the phrase into a set of utterances consisting of (a) individual terms of the phrase, and (b) all ordered combinations of two or more consecutive terms of the phrase (see block 108 of Figure 1, block 420 of Figure 4, and paragraphs 0006, 0007, 0019, 0020, and 0036). The method further comprises storing at least some of the utterances of the set, including both single-term and multi-term utterances, within a speech recognition grammar used to interpret the voice-based search query (see block 114 of Figure 1, and paragraphs 0007, 0008, 0020, 0021 and 0023).

Independent Claim 16 is directed to a system for conducting voice based searches within a domain of items. The system comprises a speech recognition system that interprets voice search queries from users (see element 302 in Figure 3, and paragraphs 0023 and 0025). The system also comprises a grammar (see element 316 in Figure 3) which specifies to the speech recognition system valid utterances for interpreting the voice search queries, wherein the grammar comprises both single-term and multi-term utterances derived from the items within the domain, and said multi-term utterances consist primarily of forward combinations derived from phrases within text of the items (see, e.g., paragraph 0022).

## **VI. GROUNDS OF REJECTION TO BE REVIEWED ON APPEAL**

The following rejections are to be reviewed on appeal:

1. The rejection of Claims 1-6 under 35 U.S.C. § 103(a) as unpatentable over the combination of U.S. Patent No. 6,615,172 to Bennett et al. ("Bennett"), U.S. Patent No. 5,265,065 to Turtle ("Turtle"), and U.S. Patent No. 6,278,967 to Akers et al. ("Akers");
2. The rejection of Claims 7 and 8 under 35 U.S.C. § 103(a) as unpatentable over the combination of Bennett, Turtle, Akers, and U.S. Patent No. 5,634,084 to Malsheen et al. ("Malsheen");
3. The rejection of Claims 9-11 and 15-18 under 35 U.S.C. § 103(a) as unpatentable over Bennett in combination with Akers;
4. The rejection of Claim 12 under 35 U.S.C. § 103(a) as unpatentable over the combination of Bennett, Akers and Turtle; and
5. The rejection of Claims 13 and 14 under 35 U.S.C. § 103(a) as unpatentable over the combination of Bennett, Akers and Malsheen.

Appellant will treat Bennett and Akers as prior art for purposes of this appeal, but reserves the right to later disqualify one or both references as prior art.

## **VII. ARGUMENT**

In connection with the five grounds for rejection set forth above, Appellant wishes to initially point out that none of the applied references (Bennett, Turtle, Akers or Malsheen) discloses a method for generating a speech recognition grammar that specifies valid utterances. Although Bennett discloses the *use* of speech recognition grammars, including context-sensitive grammars, the reference does not describe how these grammars are generated. The remaining three references do not even appear to disclose the use of a speech recognition grammar. (Note that Akers appears to use the term "grammar" to refer to linguistic rules and structural relationships for forming sentences, and not to a speech recognition grammar.)

Each contested basis for rejection is addressed separately below.

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**1. Rejection of Claims 1-6 over Bennett, Turtle and Akers.**

Independent Claim 1, and Claims 2-6 which depend from Claim 1, were rejected on obviousness grounds over the combination of Bennett, Turtle and Akers. The rejections of these claims are improper for the reasons set forth below.

Claim 1

The rejection of Claim 1 is improper because, *inter alia*, Bennett, Turtle and Akers do not disclose or suggest all of the recited claim limitations. See MPEP § 2143.03 (in order to establish prima facie obviousness of a claimed invention, all of the claim limitations must be taught or suggested by the prior art).

For example, Bennett, Turtle and Akers do not disclose or suggest “extracting phrases from at least some of the items within the domain.” In connection with these limitations, the Examiner relies on col. 11, lines 13-17 of Bennett, which describes a process in which an answer to a user’s question is retrieved from a database and presented to a user. Final Office Action at section 8 on page 8. Bennett does not, however, indicate that this process of retrieving and presenting an answer involves the extraction of phrases as claimed.

Bennett, Turtle and Akers also fail to disclose or suggest “incorporating at least some of the single-term and multiple-term utterances into the speech recognition grammar” in the context of the other claim limitations. In connection with this claim language, the Examiner takes the position that Bennett discloses a process of incorporating utterances into a speech recognition grammar, citing column 27, lines 33-36. See Final Office Action at section 8 on page 8. Appellant respectfully disagrees. The cited portion of Bennett merely describes the general function of a speech recognition grammar within Bennett’s system. Bennett does not identify the source of the utterances included in the disclosed speech recognition grammar, and does not otherwise indicate how the disclosed speech recognition grammar is generated or updated.

In response to Appellant’s argument that Bennett does not disclose the incorporation of utterances into the speech recognition grammar as claimed, the Examiner asserts that “training utterances must have been incorporated into the grammar files” in Bennett’s system during the training process. See “Response to Arguments” at page 3 of the Final Office Action. The Examiner has not, however, cited any portion of Bennett in support of this assertion. In addition, this assertion disregards the language in Claim 1 requiring the recited utterances to be derived

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from phrases extracted from at least some of the items within the domain of items; if the utterances were obtained through a training process as asserted by the Examiner, they would presumably be based on input from the user, and not derived from phrases extracted from the items.

The rejection of Claim 1 is also improper because the Examiner has failed to identify a valid motivation or suggestion to combine Bennett with Turtle and Akers. "When a rejection depends on a combination of prior art references, there must be some teaching, suggestion, or motivation to combine the references." See, e.g., In re Rouffet, 149 F.3d 1350, 1355, 47 USPQ2d 1453, 1456 (Fed. Cir. 1998). Although a reference need not expressly teach that the disclosure contained therein should be combined with another, the showing of combinability, in whatever form, must nevertheless be "clear and particular." In re Dembiczak, 175 F.3d 994, 999, 50 USPQ2d 1614, 1617 (Fed. Cir. 1999).

In the present case, the Examiner asserts that it would have been obvious to combine Bennett with Turtle and Akers because all three patents "are from the same field of endeavors, namely speech recognition grammar construction." Final Office Action at page 9, third paragraph. Appellant respectfully disagrees. As mentioned above, none of the three references discloses a method of speech recognition grammar construction, and only one of the references even discloses the use of a speech recognition grammar. The Examiner therefore has not met his burden of identifying a motivation to combine.

Indeed, no motivation exists within Bennett, Turtle and Akers to combine their respective teachings in the manner proposed by the Examiner. Specifically, nothing in these references suggests incorporating either the query parsing operation disclosed in the cited portion of Turtle (namely col. 8, lines 41 and 42), or the sentence subdivision operation described in the cited portion of Akers (namely col. 6, lines 56-62), into a process for generating or updating speech recognition grammars. The query parsing operation disclosed in Turtle is performed in order to remove stopwords such as "is," "the" and "of" from a textual, natural language query. The sentence subdivision operation described in Akers is performed in order to break a textual sentence into substrings for purposes of classifying the substrings and translating the sentence into another language. Given the very different contexts in which these two operations are

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described, one skilled in the art would not have been motivated to use these operations to construct speech recognition grammars.

In summary, because Bennett, Turtle and Akers do not disclose or suggest all of the limitations of Claim 1, and because no motivation has been identified by the Examiner to combine these references, the rejection of Claim 1 is improper.

#### Claim 2

Claim 2 depends from Claim 1, and is patentable over Bennett, Turtle and Akers for the reasons set forth above for Claim 1. In addition, Claim 2 is patentable over these references because Bennett, Turtle and Akers do not disclose or suggest the limitations added by Claim 2, namely “wherein extracting phrases comprises extracting titles of the items.” The portions of Bennett relied on by the Examiner in connection with Claim 2—namely col. 35, lines 33-35, and col. 36, lines 13-16—do not disclose or suggest these limitations.

#### Claim 3

Claim 3 depends from Claim 2, and is patentable over Bennett, Turtle and Akers for the reasons set forth above for Claims 1 and 2. In addition, Claim 3 is patentable over these references because they do not disclose or suggest the limitations added by Claim 3, namely that “extracting phrases further comprises dividing a title having more than a predefined number of terms into multiple phrases.” The portion of Akers relied on by the Examiner in connection with Claim 2, namely col. 6, lines 56-59, involves the subdivision of a “sentence” into a multiple substrings, and says nothing that would suggest “dividing a title having more than a predefined number of terms into multiple phrases” as claimed.

#### Claim 4

Claim 4 depends from Claim 2, and is patentable over Bennett, Turtle and Akers for the reasons set forth above for Claims 1 and 2. In addition, Claim 4 is patentable over these references because they do not disclose or suggest the limitations added by Claim 4, namely that “using the speech recognition grammar and the voice recognition system to interpret a voice-based query of a title search.” (Note that the present application explicitly defines the term “title search” as “a field-restricted search in which items are located using terms appearing within item titles,” see first paragraph of the “Summary of the Invention” section.) In connection with this



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claim, the Examiner merely cites Figure 4A of Bennett. Figure 4A does not, however, appear to disclose a title search.

#### Claim 5

Claim 5 depends from Claim 1, and is patentable over Bennett, Turtle and Akers for the reasons set forth above for Claim 1. In addition, Claim 5 is patentable over these references because they do not disclose or suggest the limitations added by Claim 5, namely “further comprising extracting individual terms from at least some of the items, and incorporating at least some of the individual terms into the grammar.” The portions of Bennett relied on by the Examiner in connection with Claim 5—namely col. 11, lines 9-11 and col. 27, lines 33-34—do not disclose or suggest these limitations. Bennett’s statement at col. 27, lines 33-34 indicates that the grammar file specifies all possible words that are to be recognized, but says nothing about the source of these words.

#### Claim 6

Claim 6 depends from Claim 1, and is patentable over Bennett, Turtle and Akers for the reasons set forth above for Claim 1. In addition, Claim 6 is patentable over these references because they do not disclose or suggest the limitations added by Claim 6, namely “wherein incorporating at least some of the single-term and multiple-term utterances into the speech recognition grammar comprises removing at least some of the utterances according to a set of heuristics.”

In connection with Claim 6, the Examiner relies on col. 6, lines 61-62 of Akers, which provides an example of how a sentence can be broken into multiple substrings for purposes of translating the sentence into another language. Nothing in this or any other portion of Akers, however, suggests “removing ... utterances according to a set of heuristics” as claimed.

#### **2. Rejection of Claims 7 and 8 over Bennett, Turtle and Akers and Malsheen**

Claims 7 and 8, both of which depend from Claim 1, were rejected on obviousness grounds over the combination of Bennett, Turtle, Akers and Malsheen. To the extent the Examiner is relying on Bennett, Turtle and Akers as disclosing or suggesting the limitations of the base claim, the rejections of Claims 7 and 8 are improper for the reasons set forth above for Claim 1.

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The rejections of Claims 7 and 8 are additionally improper because the Examiner has not identified a motivation or suggestion to use Malsheen's methods of converting numbers and acronyms into word counterparts in the context of speech recognition. In this regard, Malsheen discloses these conversion methods in the context of text-to-speech conversion, and not speech recognition. (Note that Malsheen's invention is directed to text-to-speech synthesis, and not speech recognition.) Thus, and contrary to the Examiner's assertion, the references do not suggest the use of Malsheen's conversion methods for purposes of improving speech recognition reliability.

### 3. Rejection of Claims 9-11 and 15-18 over Bennett and Akers

Claims 9-11 and 15-18 were rejected on obviousness grounds over the combination of Bennett and Akers. The rejections of these claims are improper for the reasons set forth below.

#### Claims 9 and 15

The rejection of Claim 9 is improper because, *inter alia*, Bennett and Akers do not disclose or suggest all of the limitations recited in Claim 9. For example, Bennett and Akers do not disclose or suggest "translating the phrase into a set of utterances consisting of (a) individual terms of the phrase, and (b) all ordered combinations of two or more consecutive terms of the phrase," or "storing at least some of the utterances of the set, including both single-term and multi-term utterances, within a speech recognition grammar used to interpret the voice-based search query."

In rejecting Claim 9, the Examiner takes the position that Akers discloses "translating the phrase into a set of utterances consisting of (a) individual terms of the phrase, and (b) *all* ordered combinations of two or more consecutive terms of the phrase" (emphasis added). Final Office Action at page 5, first paragraph, citing col. 6, lines 56-62 of Akers. In the example given in Akers, however, the phrase "the man is happy" is not broken into "*all* ordered combinations of two or more consecutive terms of the phrase" as claimed, as the combinations "man is," "is happy," and "the man is" are omitted. Appellants do not agree with the Examiner's assertion, at the bottom of page 2 of the Final Office Action, that the term "include" at col. 6, line 60 of Akers indicates that all ordered combinations would be included.

Regarding the claim language "storing at least some of the utterances of the set... within a voice recognition grammar used to interpret the voice-based search query," the Examiner takes

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the position that these limitations are disclosed at col. 27, lines 33-36 of Bennett. Appellant respectfully disagrees. As explained above, this portion of Bennett describes the general function of a speech recognition grammar within Bennett's system, but says nothing about the source of the utterances included in the grammar.

The rejection of Claim 9 is also improper because the Examiner has not identified a suggestion or motivation to combine the teachings of Bennett and Akers. As explained above, Akers does not disclose a method for constructing a speech recognition grammar. The Examiner's assertion that Bennett and Akers are "from the same field of endeavors, namely speech recognition grammar construction," is therefore inaccurate. In addition, the problem to which the cited portion of Akers is directed—namely classifying sentence substrings for purposes of translation of sentences to another language—is very different from the problem of identifying utterances to include in a speech recognition grammar. One skilled in the art thus would not have been motivated to incorporate the cited teaching of Akers into a process for generating or selecting utterances to include within a speech recognition grammar.

In summary, because Bennett and Akers do not disclose or suggest all of the limitations of Claim 9, and because the Examiner has not identified a suggestion or motivation to combine the two references, the rejection of Claim 9 is improper.

Claim 15 depends from Claim 9, and is patentable over Bennett and Akers for the reasons set forth above for Claim 9.

#### Claim 10

Claim 10 depends from Claim 9, and is patentable over Bennett and Akers for the reasons set forth above for Claim 9. In addition, Claim 10 is patentable over these references because Bennett and Akers do not disclose or suggest "wherein extracting a phrase comprises extracting the phrase from a title of the item," as recited in Claim 10. The portions of Bennett relied on by the Examiner in connection with Claim 10, namely col. 35, lines 33-35 and col. 36, lines 13-16, do not disclose or suggest these limitations.

#### Claim 11

Claim 11 depends from Claim 9, and is patentable over Bennett and Akers for the reasons set forth above for Claim 9. In addition, Claim 11 is patentable over these references because they do not disclose or suggest "wherein storing at least some of the utterances comprises

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filtering out at least one utterance according to a set of heuristics.” In connection with these limitations, the Examiner relies on col. 6, lines 61-62 of Akers, which provides an example of how a sentence can be broken into multiple substrings for purposes of translating the sentence into another language. Nothing in this or any other portion of Akers, however, suggests “filtering out at least one utterance according to a set of heuristics.”

#### Claim 16

The Examiner rejected independent Claim 16 as being obvious over Bennett in view of Akers. The rejection is improper because, *inter alia*, Bennett and Akers do not collectively disclose or suggest “a grammar which specifies to the speech recognition system valid utterances for interpreting the voice search queries, wherein the grammar comprises both single-term and multi-term utterances derived from the items within the domain, and said multi-term utterances consist primarily of forward combinations derived from phrases within text of the items,” within the context of the other claim limitations.

As explained above, Akers’s teaching of breaking sentences into substrings is disclosed in the context of translating a sentence into another language, and not in the context of selecting or generating utterances to include in a speech recognition grammar. One skilled in the art therefore would not have considered using the sentence subdivision operation of Akers to construct a grammar having the characteristics set forth in Claim 16. Stated differently, even if the teachings of Bennett and Akers were somehow combined, the resulting combination would not include a grammar as defined in Claim 16.

The rejection of Claim 16 is also improper because the Examiner has not identified a suggestion or motivation to combine the teachings of Bennett and Akers. In connection with this issue, the Examiner asserts that Bennett and Akers are analogous because they are from the same field of endeavor, namely voice-based search systems. Final Office Action at page 7, lines 10 and 11. Akers does not, however, involve voice-based search systems. The Examiner’s asserted basis for combining the two references is therefore inaccurate.

#### Claim 17

Claim 17 depends from Claim 16, and is patentable over Bennett and Akers for the reasons set forth above for Claim 16. In addition, Claim 17 is patentable over these references because they do not disclose or suggest that “the forward combinations are derived from titles of

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the items,” as recited in Claim 17. The portions of Bennett relied on by the Examiner in connection with Claim 17, namely col. 35, lines 33-35 and col. 36, lines 13-16, do not disclose or suggest these limitations.

#### Claim 18

Claim 18 depends from Claim 16, and is patentable over Bennett and Akers for the reasons set forth above for Claim 16. In addition, Claim 18 is patentable over these references because they do not disclose or suggest that “the speech recognition system uses the grammar to interpret voice queries of title searches,” as recited in Claim 18. Figure 4A of Bennett does not disclose or suggest these limitations.

#### **4. Rejection of Claim 12 over Bennett, Akers and Turtle**

Claim 12 depends from Claim 10, which depends from Claim 9. The Examiner rejected Claim 12 on obviousness grounds over Bennett, Akers and Turtle. To the extent the Examiner is relying on Bennett and Akers as disclosing or suggesting the limitations of Claims 9 and 10, the rejection of Claim 12 is improper for the reasons set forth above for Claims 9 and 10.

In addition, the rejection of Claim 12 is improper because the Examiner has not identified a suggestion or motivation to combine Turtle with the other references. In connection with this issue, the Examiner asserts that it would have been obvious to combine Turtle and Bennett because both are in the field of voice-based search systems. See Final Office Action at bottom of page 11. However, Turtle does not involve a voice-based search system.

#### **5. Rejection of Claims 13 and 14 over Bennett, Akers and Malsheen**

Claims 13 and 14, both of which depend from Claim 9, were rejected on obviousness grounds over the combination of Bennett, Akers and Malsheen. To the extent the Examiner is relying on Bennett and Akers as disclosing or suggesting the limitations of the base claim, the rejections of Claims 13 and 14 are improper for the reasons set forth above for Claim 9.

The rejections of Claims 13 and 14 are also improper because the Examiner has not identified a motivation or suggestion to use Malsheen’s methods of converting numbers and acronyms into word counterparts in the context of speech recognition. As explained above, Malsheen discloses these conversion methods in the context of text-to-speech conversion, and not speech recognition. Thus, contrary to the Examiner’s assertion, one skilled in the art would

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not have considered Malsheen's conversion methods for purposes of improving speech recognition reliability—in the context of a voice-based searching or otherwise.

### **VIII. CONCLUSION**

For the reasons set forth above, the rejections of Claims 1-11 and 13-18 are improper and should be reversed.

Respectfully submitted,

KNOBBE, MARTENS, OLSON & BEAR, LLP

Dated: 10-13-04

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**CLAIMS APPENDIX**

1. A method of specifying to a speech recognition system a set of valid utterances for interpreting voice-based queries for items within a domain of items, the method comprising:
  - extracting phrases from at least some of the items within the domain;
  - expanding each phrase into a set consisting of individual terms of the phrase and forward combinations of terms within the phrase, to thereby generate a set of utterances which includes both single-term and multiple-term utterances;
  - incorporating at least some of the single-term and multiple-term utterances into the speech recognition grammar; and
  - providing the speech recognition grammar to the speech recognition system.
2. The method as defined in Claim 1, wherein extracting phrases comprises extracting titles of the items.
3. The method as defined in Claim 2, wherein extracting phrases further comprises dividing a title having more than a predefined number of terms into multiple phrases.
4. The method as defined in Claim 2, further comprising using the speech recognition grammar and the voice recognition system to interpret a voice-based query of a title search.
5. The method as defined in Claim 1, further comprising extracting individual terms from at least some of the items, and incorporating at least some of the individual terms into the grammar.
6. The method as defined in Claim 1, wherein incorporating at least some of the single-term and multiple-term utterances into the speech recognition grammar comprises removing at least some of the utterances according to a set of heuristics.
7. The method as defined in Claim 1, further comprising converting a number within a multiple-term utterance produced by said phrase expansion into a multiple-word counterpart.
8. The method as defined in Claim 1, further comprising expanding an acronym within a multiple-term utterance produced by said phrase expansion into a multiple-term counterpart.

9. A method of enabling an item to be located by a voice-based search query, the method comprising:

extracting a phrase from text of the item;

translating the phrase into a set of utterances consisting of (a) individual terms of the phrase, and (b) all ordered combinations of two or more consecutive terms of the phrase; and

storing at least some of the utterances of the set, including both single-term and multi-term utterances, within a speech recognition grammar used to interpret the voice-based search query.

10. The method as defined in Claim 9, wherein extracting a phrase comprises extracting the phrase from a title of the item.

11. The method as defined in Claim 9, wherein storing at least some of the utterances comprises filtering out at least one utterance according to a set of heuristics.

12. The method as defined in Claim 10, further comprising removing a duplicate phrase within the title prior to translation into the set of utterances.

13. The method as defined in Claim 9, further comprising converting a number within the set of utterances into a word counterpart.

14. The method as defined in Claim 9, further comprising expanding an acronym within the set of utterances.

15. The method as defined in Claim 9, wherein the phrase comprises at least three terms.

16. A system for conducting voice based searches within a domain of items, comprising:

a speech recognition system that interprets voice search queries from users; and

a grammar which specifies to the speech recognition system valid utterances for interpreting the voice search queries, wherein the grammar comprises both single-term and multi-term utterances derived from the items within the domain, and said multi-term utterances consist primarily of forward combinations derived from phrases within text of the items.



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17. The system as in Claim 16, wherein the forward combinations are derived from titles of the items.

18. The system as in Claim 17, wherein the speech recognition system uses the grammar to interpret voice queries of title searches.

**EVIDENCE APPENDIX**

None

**RELATED PROCEEDINGS APPENDIX**

None